

REMARKS/ARGUMENTS

Reconsideration of this application is respectfully requested in view of the foregoing amendments and discussion presented herein.

1. **Objection to Specification.**

The Specification was objected to for not including the U.S. Patent Number for application serial number 09/754,240. The patent number has been inserted into the application.

2. **Claim objections.**

The Applicant notes the Examiner's assertion that should Claim 131 be found allowable, Claim 132 will be objected to as being a substantial duplicate thereof. In substantial accordance with the Examiner's suggestion, Claim 131 has been deleted, and Claim 132 has been amended to recite the substance of Claim 131, avoiding the need to renumber other dependencies.

3. **Rejection of Claims 98 and 99 under 35 U.S.C. § 102(b).**

Claims 98 and 99 were rejected under 35 U.S.C. § 102(b) as being anticipated by Collier (U.S. No. 4,694,722).

At the outset, The Examiner's stated position is that a "piece of wallboard or the like" referred to in Collier "reads on the instant claimed 'corrugated cardboard'". To the contrary, Collier states as follows in the first paragraph of the application, at column 1, lines 6-12:

The present invention related to scoring and/or cutting machines for use on sheets of building material ***having outer layers of paperboard and a central layer of gypsum or the like***, and more particularly to those which are provided with pairs of multi-positional blades for scoring opposing surfaces of the sheets of ***drywall, wallboard and the like***. (emphasis added)

Further, in column 2, lines 6-15, Collier states:

Full size sheets of wallboard are so heavy and cumbersome that, absent substantial mechanical assistance, an average worker who handles such sheets repeatedly will tire rapidly. The cardboard and crushed gypsum

stone which the wallboard is composed require the application of a substantial amount of force to draw a hand-operated cutting tool through just the surface portions thereof. In addition, these materials tend to wear out straight knife blades rapidly.

This description of “drywall, wallboard and the like” in no way resembles “corrugated cardboard”. The present invention is not directed to materials “having outer layers...and a central layer of gypsum or the like”, and it is respectfully submitted that cutting a material with a central layer of gypsum has very different cutting requirements than cutting a material without a central layer of gypsum. Various claims in the instant application are specifically drawn to cutting wheels having “non-fluted (straight)” teeth (see paragraph [00135] of the instant specification), which, as noted in Collier, wear out quickly when cutting wallboard. It is respectfully submitted that, because of these divergent cutting requirements, Collier is non-analogous art.

Nonetheless, with respect to Collier, the Examiner states as follows:

The assembly comprises a plurality of freely rotating lower circular blades and a plurality of freely rotating upper circular blades juxtaposed along a first and second common axis respectively, which generally are parallel and axially adjustable. The lower blades form a first cutting edge that overlaps a second cutting edge formed by the upper blades. The blades, mounted on an arbor, are formed with a plurality of teeth, which slice material placed between the upper and lower blades.

Collier's cutting wheels do not overlap. The Examiner's kind attention is directed to Figure 4 of Collier, which shows two cutting wheels (32) and a workpiece (W) between them. Note, in Figure 3, that the cutting wheels (32) do not overlap in the slightest, but are oriented to cut through the outer layers. Please refer also to column 5, lines 41-47, which specifically orients the cutting wheels:

As may be readily understood, the tool and cutter assemblies are releasably secured to their respective tool guides in relatively opposing, vertically aligned pairs so that the scores and cuts on the opposing surfaces ***are aligned with one another*** and even break lines are provided thereon. (emphasis added)

Further, at column 6, lines 7-9:

[S]ince ***the teeth are aligned with one another, rather than being alternately offset***, a relatively narrow split or cut line can be formed in the workpiece. (emphasis added)

It is readily understood by one of skill in the art pertaining to Collier that drywall or wallboard is typically scored and broken, as is noted at column 1, lines 6-12, which is quoted above. This orientation of cutting wheels provides cuts in the wallboard that are aligned directly across from one another, so that a clean break can be made at the scorelines produced by the apparatus disclosed in Collier. It would be impossible to obtain these aligned scorelines if there were any overlap of the cutting wheels. In addition, Collier does not state that the wheels overlap in any manner, and specifically states that "the teeth are aligned with one another, rather than being alternately offset" and that "the scores and cuts [produced by the Collier apparatus] on the opposing surfaces are aligned with one another". At column 4, lines 60-65, Collier specifically states that "the tool guides (12) and (13) and the tool and cutter assemblies (14) and (15) slidably mounted thereon are constructed and positioned so the workpiece (W) passing between the tool and cutter assemblies is scored and partially cut on both sides thereof", and at column 7, lines 33-34, that "the opposing tool and cutter assemblies, (14) and (15) do not cut completely through or sever the drywall".

In contrast, please see Figure 60 of the instant application, which shows the overlap of the cutting edges of the circular blades. This arrangement cannot work in the scoring of wallboard, which is clear upon a reading of the Collier reference, as noted hereinabove.

Thus, Collier cannot anticipate Claims 98 and 99 of the present invention, because it cannot meet the elements recited in independent Claim 98. Collier, in fact, teaches away from an overlap of the cutting edges of the blades and, as a practical matter, is directed to non-analogous art. The rejection under § 102(b), therefore, should be withdrawn.

4. Rejections under 35 U.S.C. § 103(a).

At the outset, each of the following rejections includes the Collier reference, which is described hereinabove. All arguments made in the previous section are incorporated into this section in their entirety.

(a) Claims 98-99, 101-102, and 106 over Baron and Collier.

The Examiner relies on Baron as the primary reference for this rejection. Baron discloses “[a]n apparatus...for cutting and breaking empty discarded frangible containers into small pieces of material to facilitate subsequent processing and recycling of those materials” (abstract). At the outset, the Applicant notes that waxed corrugated cardboard would not necessarily be considered a “frangible” material.

The Examiner begins by stating “Baron discloses....a plurality of lower circular blades and a plurality of upper circular blades juxtaposed along a first and second common axis, respectively”. The Examiner’s kind attention is directed to the fact that, in Baron, these blades are located on axes that are substantially vertical, and the meaning of “upper” and “lower” circular blades is then confused. It would seem that in Baron, upper and lower circular blades are located on the same axis, which violates the plain meaning of the claim language.

The Examiner next states that the upper and lower circular blades “are axially adjustable” in Baron. In Baron, the circular blades protrude through slots (S) in a cone (27). The cone (27) is preferably fabricated from sheet steel (col. 3, l. 45). Thus, there is no axial adjustment in Baron. In Baron, axial adjustment would take place along the axis on which a series of wheels is mounted, and would affect the spacing between the wheels. In the instant invention, axial adjustment changes the overlap between the blades of the cutting edges of the upper and lower circular wheels.

The Examiner next states that “[t]he lower and upper blades are mounted on a lower and upper shaft, respectively...”, which is clearly untrue. The shafts in Baron are substantially vertical. There is no element in Baron that could be considered an “upper” or “lower” shaft without doing violence to the plain meaning of those words.

The Examiner continues "...and [the upper and lower blades] protrude through slots in a lower and upper column, respectively...". Again, this is not supported by the Baron reference. The slots (S) in Baron are cut into a cone (27) that is a single piece of sheet steel. There are no elements in Baron whatsoever that could be considered a "lower" and "upper" column. The cutting wheels in Baron all protrude through slots into "a cone-shaped, horn-shaped, or otherwise tapered chamber (27A)" that is formed by a single cone (27).

The Collier reference is combined with the Baron reference to provide that the axes are parallel and overlapping. The Examiner's attention is respectfully directed to the fact that the claims do not specify that the axes overlap, but that the "first cutting edge overlaps [the] second cutting edge" (Claim 98).

Collier cannot cure the deficiencies of Baron. As noted at length hereinabove, the blades of the cutting wheels in Collier do not have any overlap.

Moreover, the Examiner wishes to make the axes in Baron parallel, which does violence to the purpose and function of the Baron apparatus. The axes are substantially vertical, and are oriented along a cone-shaped chamber (see Figure 1 of Baron). These axes cannot be oriented in a parallel fashion about this cone-shaped chamber and serve the same function. The shape of the chamber is integral to the Baron apparatus. Baron states the following about this chamber at column 3, lines 59-62:

The function of the cone (27) is to hold and direct the containers (C) in the paths of the cutting blades (1) and to guide the pieces of fragments of material through outlet openings (27C) into a selected one of the bins (40).

For Baron, the only way to have "upper" and "lower" shafts and blades would be to turn the Baron apparatus on its side. However, this orientation would give three shafts without any clear "upper" or "lower" orientation, and, furthermore, the Baron apparatus would not work on its side. The cone- or horn-shaped chamber is designed to funnel material through as it is crushed and broken, and to deposit the resulting material into one of several bins that are located below the outlet opening (27C). If this

assembly were turned on its side, the inserted materials would not flow through the chamber and out into the collection bins.

Note also column 1, lines 52-56, just after discussion of various prior art patents, in which Baron teaches away from a horizontally oriented apparatus:

All of the aforementioned patents employ one or more horizontally-disposed helical screws to process material. None is similar in purpose, size, construction or mode of operation to applicant's invention hereinafter described.

Finally, as to the Examiner's statement of motivation:

It would have been obvious to make the assembly of Baron in a parallel and overlapping fashion like Collier because it would allow for symmetry and consistency in the slices being cut.

Such a motivation is not found anywhere in Baron. The materials that run through the apparatus in Baron are discarded materials that are broken "into small pieces which can be conveniently packaged for transport to recycling centers" (col. 2, ll. 22-24). There is no concern with "symmetry" or "consistency" in the pieces produced by Baron's apparatus.

Moreover, neither Baron nor Collier contains, teaches, suggests, or provides motivation for all of the recited elements of the claimed invention, and the combination of these two references is wholly unworkable. The apparatus of Baron breaks up items into small pieces for disposal, and the apparatus in Collier scores large sheets of wallboard prior to use. The relationship of the cutting wheels or blades to the workpieces is fundamentally different, as is the workpiece itself, and the concepts enunciated in Baron and Collier are not compatible. No combination of these references can render the claimed invention obvious; the rejection under § 103 must be withdrawn.

(b) Claim 103 over Baron, Collier, and Vits.

As noted hereinabove, the combination of Baron and Collier at least lacks several recited elements of the relevant independent claim. The addition of Vits does not cure these deficiencies. This § 103 rejection must be withdrawn.

(c) Claims 101-102, and 106 over Collier and Baron.

As noted hereinabove, the combination of Collier and Baron at least lacks several recited elements of the relevant independent claim. Collier is noted as the primary reference for this rejection, and all remarks and comments made hereinabove with respect to the § 102 rejection are incorporated in this section.

Claims 101-102. The Examiner states as follows:

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to utilize a shaft of Baron in the assembly of Collier because a shaft would easily accommodate the plurality of blades Collier disclosed. If Collier's blades were mounted on a shaft, rotation of the shaft would obviously cause rotation of the blades.

This statement is pure speculation on the Examiner's part. A careful reading of Collier reveals the following:

[One prior art reference] discloses a device for forming score lines in a thin sheet of metal. [That] scoring device is provided with upper and lower rotatable shafts on each of which is mounted a plurality of circular blades. While the relative positions and number of blades on each shaft may be changed, the means for doing so is cumbersome. In addition, the blades are not freely rotatable and either one or both of the shafts is power driven. While driven blades may be suitable for scoring relatively small pieces of metal, they tend to inject gypsum dust in the air when employed to but wallboard.

Thus, Collier knows all about shafts with multiple blades thereon and about blades that are driven, rather than freely rotatable, but finds them to have inherent problems. Thus, Collier specifically teaches away from (1) the use of rotatable shafts with circular blades mounted thereon and (2) the use of circular blades that are driven, rather than freely rotatable.

Collier specifically teaches circular blades (32) that are freely rotatable (col. 6, ll.13-14) to distribute wear. See column 8, lines 6-8: "[s]ince its blades are circular, freely rotating, and provided with teeth, they do not wear out quickly". If a shaft has freely rotatable circular blades upon it, rotation of the shaft would not necessarily cause

rotation of the blades.

Claim 106. Neither Collier nor Baron teaches, suggests, or provides motivation for an “upper guide plate” and a “lower guide plate”. It is respectfully submitted that Collier discloses a guide (18) that aligns the workpiece while the scoring operation occurs. There is no need for a guide plate with slots in Collier, because each cutting wheel is mounted as a tool and cutter assembly (14,15) that is mounted on a laterally extending tool guide (12,13). The guides on the table properly align the workpiece (W) with respect to the freely rotatable cutting wheels (32) (see, for example, col. 4, ll. 2-21).

As noted hereinabove, the concept of “upper” and “lower” is practically meaningless with respect to Baron. The chamber in Baron in which the cutting occurs, and in which the slots are contained, is a one-piece cone- or horn-shaped chamber with tapered sides, as noted hereinabove. There is no way to interpret this chamber, as shown in the Baron reference, as being “upper” or “lower”.

As to the statement of motivation, to wit:

It would have been obvious to one of ordinary skill in the art at the time of the invention by applicant to utilize the slots in the assembly of Collier because a guide plate with slots would enhance the stability of the blades and would ensure them to be parallel, as disclosed in Collier.

It is noted that Claim 98 of the instant application does not require the blades to be parallel; the claim requires “[the] first common axis [to be] parallel to [the] second common axis”. The addition of guide plates would have no effect on whether or not the axes themselves were parallel to one another. The Examiner characterization of Baron’s chamber as a guide plate further serves to augment this conclusion, as the Examiner admits that the axes (shafts) in Baron are not parallel.

As noted hereinabove, no combination of Collier and Baron can render the claimed invention obvious; the rejection under § 103 must be withdrawn.

(d) Claim 100 over Collier and Michalek.

Collier is noted as the primary reference for this rejection, and all remarks and comments made hereinabove with respect to the § 102 rejection are incorporated in

this section. Michalek does not cure the numerous deficiencies of Collier, and because the combination of Collier and Michalek cannot include all elements of the claimed invention, the rejection under § 103 must be withdrawn.

(e) Claims 131-133, 135, 136, and 138 over Baron, Collier, and Gerber.

Claim 131 has been cancelled. Amended Claim 132 contains the subject matter of former Claim 131. The deficiencies of Baron and Collier, individually and in combination, are presented hereinabove and are incorporated into this section. Gerber does not cure the deficiencies of Baron and Collier.

The Examiner begins by stating as follows:

Gerber discloses a cutting apparatus for cardboard workpieces in which a cutting wheel has cutting edges arranged coaxially of an axis of rotation. It is the examiner's position that this reads on a shaft containing a plurality of circular blades juxtaposed along one axis. The wheel rotates, thereby rotating the cutting edges, which cut the cardboard producing a frayed edge. (citations omitted)

It is respectfully submitted that Gerber is non-analogous art. Gerber clearly discloses an apparatus that operates like a router, in which a workpiece is penetrated by a bit. The "cutting wheel (46)" in Gerber is nothing like the circular blades of the instant invention. The "frayed edge" referred to in Gerber is located only along the trailing edge of the bit path due to the movement of the cutting wheel, and is analogous to "tearout" or "chipout" that is experienced with wood routers.

The Examiner continues:

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to utilize the cutting edge of Gerber producing frayed edges in the combined assembly of Baron and Collier because frayed edges are known to be useful in the use of recycled cardboard. Since the objective of Baron is for recycling purposes, it would be an obvious advantage to produce frayed edges.

At the outset, the Examiner cites no reference teaching that "frayed edges are known to be useful in the use of recycled cardboard". None of the cited references teaches, suggests, or provides motivation for this conclusion. Only Baron involves

recycling, and he makes no claim that "frayed edges are useful in the use of recycled cardboard".

Thus, no combination of Baron, Collier, and Gerber produces the claimed invention, and there is no motivation to combine Gerber with Baron, Collier, or any combination thereof, so the rejection under § 103 must be withdrawn.

(f) Claim 134 over Baron, Collier, Gerber, and Michalek.

Baron is noted as the primary reference for this rejection, and the arguments made hereinabove with respect to Baron are specifically incorporated in this section. Also noted hereinabove is the failure of Collier, Gerber, and/or Michalek to cure the deficiencies of Baron, and those arguments are incorporated in this section as well.

Because none of the cited references, either separately or in combination, produces the claimed invention or renders the claimed invention obvious, the rejection under § 103 must be withdrawn.

(g) Claim 137 over Baron, Collier, Gerber, and Vits.

Baron is noted as the primary reference for this rejection, and the arguments made hereinabove with respect to Baron are specifically incorporated in this section. Also noted hereinabove is the failure of Collier, Gerber, and/or Vits to cure the deficiencies of Baron, and those arguments are incorporated in this section as well.

Because none of the cited references, either separately or in combination, produces the claimed invention or renders the claimed invention obvious, the rejection under § 103 must be withdrawn.

5. Amendments Made Without Prejudice or Estoppel.

Notwithstanding the amendments made and accompanying traversing remarks provided above, Applicants have made these amendments in order to expedite allowance of the currently pending subject matter. However, Applicants do not acquiesce in the original ground for rejection with respect to the original form of these claims. These amendments have been made without any prejudice, waiver, or estoppel, and without forfeiture or dedication to the public, with respect to the original

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subject matter of the claims as originally filed or in their form immediately preceding these amendments. Applicants reserve the right to pursue the original scope of these claims in the future, such as through continuation practice, for example.

6. Conclusion.

Based on the foregoing, Applicants respectfully request that the various grounds for rejection in the Office Action be reconsidered and withdrawn with respect to the presently amended form of the claims, and that a Notice of Allowance be issued for the present application to pass to issuance.

In the event any further matters remain at issue with respect to the present application, Applicants respectfully request that the Examiner please contact the undersigned below at the telephone number indicated in order to discuss such matter prior to the next action on the merits of this application.

Date: _____

4/3/07

Respectfully submitted,



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